Blue Ribbon Commission on Transportation

D R A F T

Benchmark Committee

Interim Report

May 8, 2000

Benchmark Committee Members

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Wilder Construction Company

John Kelly, Vice Chair
Alaska Airlines

John Rindlaub, Vice Chair
Bank of America

Greg Devereux
Federation of State Employees

Honorable Richard McIver
City of Seattle

Karen Schmidt
Freight Mobility Strategic Investment Board

Honorable Judie Stanton
Clark County

Blue Ribbon Commission on Transportation

BENCHMARK COMMITTEE INTERIM REPORT
DRAFT (5/8/2000)

INTRODUCTION

The Blue Ribbon Commission on Transportation's Benchmark Committee was formed as an *ad hoc* committee in October 1999 and met five times during the period October 1999 to April 2000. During that period, Committee members had the opportunity to:

- Develop benchmark topic areas and a committee workplan;
- Agree upon principles for evaluating data and goals for how the Commission should use benchmarks;
- Receive briefings and evaluate a wide variety of available national, state and local transportation data;
- Recommend a set of preliminary benchmarks to the full Commission.

This Committee report outlines the benchmarks the Committee agreed best captured an overview of transportation in Washington State. It also describes the process the Committee went through to arrive at its recommendations, the data it evaluated and chose both to use and not to use, the principles and goals identified by the Committee, and the relationship of the benchmarks to the key themes of the three standing committees, Investment Strategies, Administration and Revenue.

Committee Process

During the Commission retreat in September 1999, a preliminary list of eight benchmark topic areas was proposed. They were:

- Physical condition of the transportation system,
- Safety,
- Mobility (congestion relief),
- Mobility (travel options),
- Freight movement,
- Global trade competitiveness,
- Environment (air quality), and
- Cost efficiency.

Members discussed these topics and found that while general agreement existed on topics, many issues were quickly identified about the nature and detail of data to support any future benchmarks. An ad hoc committee was proposed to develop recommendations. It was formally

appointed by the Steering Committee and met for the first time in October. A technical advisory team representing WSDOT, cities and counties was formed and asked to assist the committee with issues related to data collection and definition.[1]

At the committee's first meeting, members discussed the purpose of the benchmarks, their appropriate level of detail and the audience to which they should be directed. Initially, some committee members thought the benchmarks should be used to drive funding and to hold transportation officials accountable for system performance. It became apparent that developing benchmarks for such specific managerial goals would require a level of technical detail that was beyond the role of the Commission. Instead, members concluded that the Commission's role with respect to benchmarks should be to set high-level targets that help articulate the vision of the state's transportation system in the year 2020.

Audience for benchmarks. The committee agreed that the benchmarks should be directed at two primary audiences: the public and the legislature. Benchmarks were to describe the current state of transportation and set targets that would be achievable through the Commission's recommendations in the areas of administrative reform, investment strategies and funding. Benchmarks thus were to be a communication device, not an attempt to measure performance at individual agency or jurisdiction levels. It was the system as a whole that was the Commission's charge.

Data sources. Committee members then further agreed that benchmarks should be based on statewide data (state, county and city levels) whenever possible and that comparative data would be used where available to illustrate Washington's system performance compared to other states. Another working principle agreed upon was that the committee would use only existing data that were systematically collected over a number of years, such that a trend could be illustrated and could be tracked into the future. This last point considerably narrowed the scope of what could be measured and tracked, as there were many benchmark ideas proposed for which no consistent data over time existed. The committee chose not to recommend or initiate new data gathering efforts solely for the purpose of benchmarking.

Benchmarks vs. indicators. After a number of meetings and detailed briefings and discussions of available data sources and their limitations, the committee found that some of its original topic areas lent themselves to illustration of trends over time but were not amenable to actual benchmarking. Benchmarking as defined by the committee involved identifying a measure of some aspect of system performance, illustrating a trend over time compared to a benchmark (such as a national average) and then setting a target that could be influenced through direct intervention or investment decisions.

For example, the condition of the roadway system was straightforward to benchmark because data had been collected nationally for many years using common and consistent standards defining pavement condition. So Washington's average pavement condition on its interstate and state highways could easily be compared to the average pavement condition in other states. An

[1] The technical advisory group consisted of Charlie Howard, Transportation Planning Manager at WSDOT, Chris Mudgett, Special Projects Manager at the County Road Administration Board, and Jim Seitz, Transportation Specialist with the Association of Washington Cities.

easily measurable target could then be set to improve or maintain the condition at an agreed upon level and then investments could be directed to achieving that goal.

On the other hand, in the area of traffic safety, while there were good data sources on accidents by type, by seriousness and by cause, there was little direct relationship between the accident rate in a particular state and the investment decisions made by transportation officials. Fatality rates are low in states that have a high proportion of citizens using seat belts, which in turn is closely correlated with educational attainment levels. While some accident factors can be directly influenced by a state's investment decisions, the most significant ones cannot. The committee chose to develop "indicators" for such topics, so that this aspect of the transportation system could be described. It did not, however, set a target for future performance, since too many variables could affect the state's ability to achieve such a target.

Benchmark Committee Principles and Goals

Based upon the committee's discussions of the purpose, potential audiences and a variety of data sources for benchmarking, the following goals and principles were eventually distilled and became the guidelines for committee efforts:

- Benchmarks should be a communication device
- Benchmarks should set high-level targets that help articulate the vision of the state's transportation system
- Benchmarks will be directed at two primary audiences: the public and the legislature

- Only existing data sources will be used, for which several years of data are available
- Statewide data should be used whenever possible
- Comparative data should be used whenever available

Relationship to Major Themes

Like the three standing committees, the Benchmark Committee worked independently on the topic areas identified by its members, but found that its efforts began to converge on a number of the same themes as those arrived at by the Administration, Investment Strategies and Revenue Committees. Those major themes included:

- Make efficient use of existing resources
- Empower regions to solve regional problems
- Focus on taking care of the system we have
- Ensure that statewide connections work
- Promote the most efficient mix of solutions
- Ensure the safety of the travelling public
- Foster economic development and the movement of goods
- Support a high quality of life

The benchmark topics linked directly to six of the eight themes developed by the Commission:

Major Themes	Benchmark Topics
Make efficient use of existing resources	Cost efficiency
Empower regions to solve regional problems	
Focus on taking care of the system we have	Physical condition
Ensure that statewide connections work	
Promote the most efficient mix of solutions	Mobility (congestion, options)
Ensure the safety of the travelling public	Safety
Foster economic development & movement of goods	Freight movement / Trade competitiveness
Support a high quality of life	Environment (air quality)

The two themes related to the structure and governance of transportation, statewide connections and regional problem-solving, did not appear to lend themselves to benchmarking which deals with outcomes and results, not with the structures or means of getting to the results. Nevertheless, there was an indirect linkage in that these two themes as well, related to successful achievement of all of the benchmarked outcomes.

BENCHMARKS CONSIDERED AND RECOMMENDED

This section discusses, by topic area, the data sources the committee reviewed, and those it selected to recommend for benchmarks and indicators as well as those it opted not to recommend for use.

Physical Condition of the System

Pavement Condition. The primary source of consistent, comparable, statewide data available over time is the federal Highway Performance Monitoring System (HPMS). Each year every one of the 50 states is required to submit to the Federal Highway Administration (FHWA) data on the structural condition (cracking), roughness and rutting of all state highways.

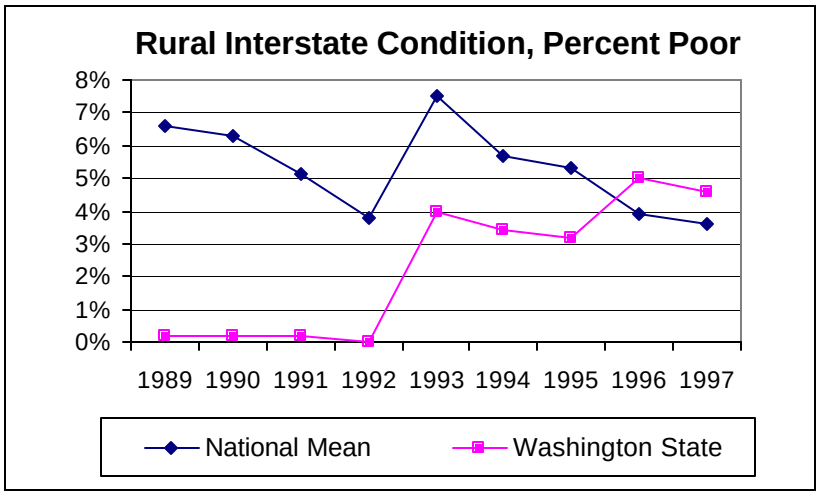
- **State.** WSDOT collects these data and submits them to the federal government where they are compiled in the Highway Statistics report. WSDOT also conducts sampling of pavement conditions on county and city arterials and reports these data also to FHWA. WSDOT's target is to have no pavement in poor or very poor condition.
- **Counties.** Washington's 39 counties report the structural condition of county arterials to the County Road Administration Board (CRAB) every two years. These data are used in pavement management systems that determine lowest life cycle costs for pavement preservation.
- **Cities.** Data on the condition of city streets are not centrally collected in a comprehensive way. While about 70 % of city street miles are managed with pavement management systems, there is no uniform rating and tracking system for city streets.

Data show that in 1971 about 30% of the state's highways were in poor condition, but by 1998 through consistent preservation funding, that number had declined to less than 10%. Even post-

695, the Transportation Commission has made pavement and bridge preservation a high priority. Starting in the early 1990s, HPMS switched its rating index from cracking to roughness which led to an apparent "bump" or worsening of pavement condition in 1993 on the graphs reviewed by the committee. While the state switched to the roughness index as required by the federal reports, counties continued to use the previous rating system, making the county data no longer directly comparable to the state data after the early 1990s.

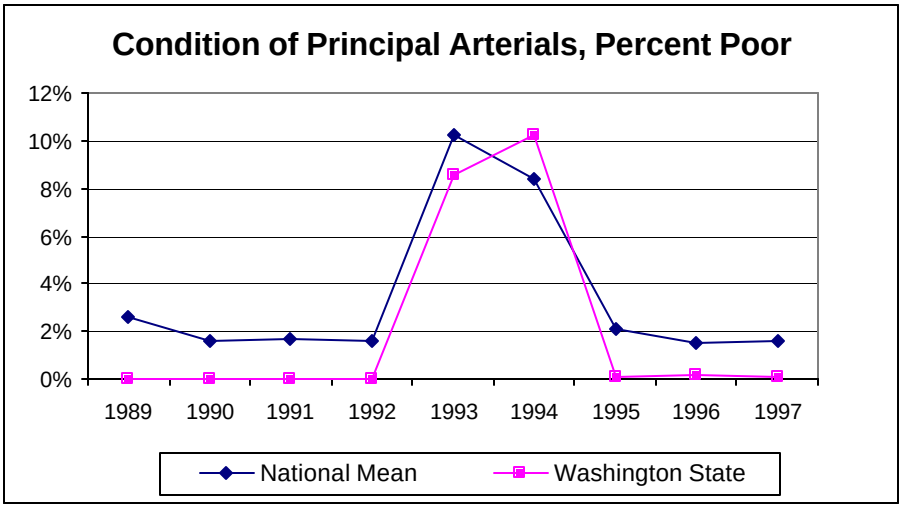
The HPMS data are used by Professor David Hartgen of the University of North Carolina at Charlotte to prepare annual reports comparing and ranking the 50 states on the condition of their roadway systems. Because these data are readily available and can be used to compare Washington to a national average, this source was selected by the committee for its first benchmark. The committee agreed upon a target of zero percent poor by the year 2020.

Benchmark 1: Physical Condition
Target: Zero percent poor by the year 2020



The committee then chose to add the state's major principal arterials as an additional benchmark since most of the state's drivers do not use the interstate highway system as often as they do the major state routes (such as SR 395, 2, 12 and 101). It was felt that these are the ones more people actually travel on and care about.

Benchmark 2: Physical Condition
Target: Zero percent poor by the year 2020

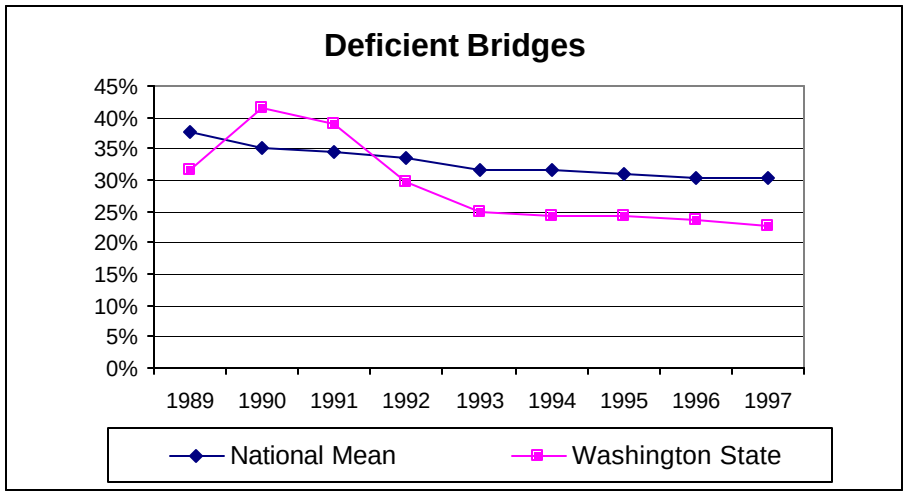


The committee examined the available data on the condition of local arterials, which are being compiled by a pilot project under the auspices of LEAP, the Legislative Evaluation and Accountability Program. These data were not yet available at the time of the committee's efforts, but a placeholder **Benchmark 3** was created to indicate that such a benchmark was intended to be added when the data became available.

Bridge Condition. Uniform data is collected by the State of Washington Inventory of Bridges (SWIBS) for state, county and city bridges. Two standards are used: structurally deficient (e.g., weakened footings) and functionally obsolete (e.g., narrow lanes). A scale of 0 to 100 is used to rate each condition. State and federal dollars have been focused on the structurally deficient bridges and the trends indicate that the bridges with a sufficiency rating of less than 50 have been significantly reduced in recent years.

Again, Professor Hartgen's data show the percent of deficient bridges in Washington compared to the national mean. The committee chose as its fourth benchmark the percent of bridges that are deficient and set a target that zero percent should be structurally deficient by the year 2020.

Benchmark 4: Physical Condition
Target: Zero percent poor by the year 2020

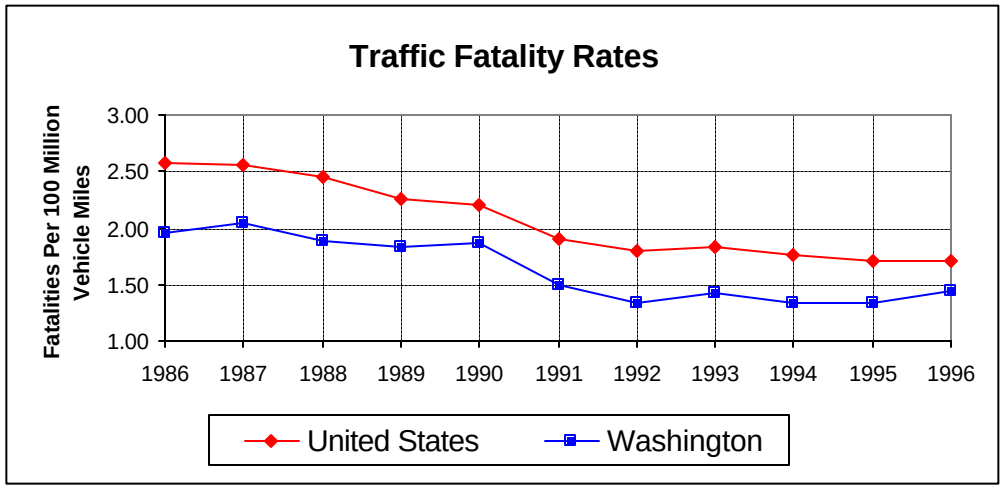


Public Transportation System Condition. The committee reviewed data on the condition of the transit rolling stock. It showed that the transit fleet statewide grew from 3,112 vehicles to 3,519 (a 13% increase), however the proportion of vehicles being rated 80 or above (good working order) declined slightly, indicating an older rolling stock. Committee members felt these data would not be very useful as a benchmark as the public does not seem as conscious of vehicle condition as it does of transit service quality, frequency and reliability. Keeping in mind the intended audience for the benchmarks, no benchmark was recommended for this topic.

Safety

Accident Rates. The committee began by reviewing data on accident rates in Washington and compared to the rest of the country. All accident rates have been declining here and in other states for a number of years. The reasons include increased enforcement of drunk driving laws and higher seat belt use. The committee first reviewed fatality rates and saw that Washington was already considerably better than the national average.

Indicator 1: Safety

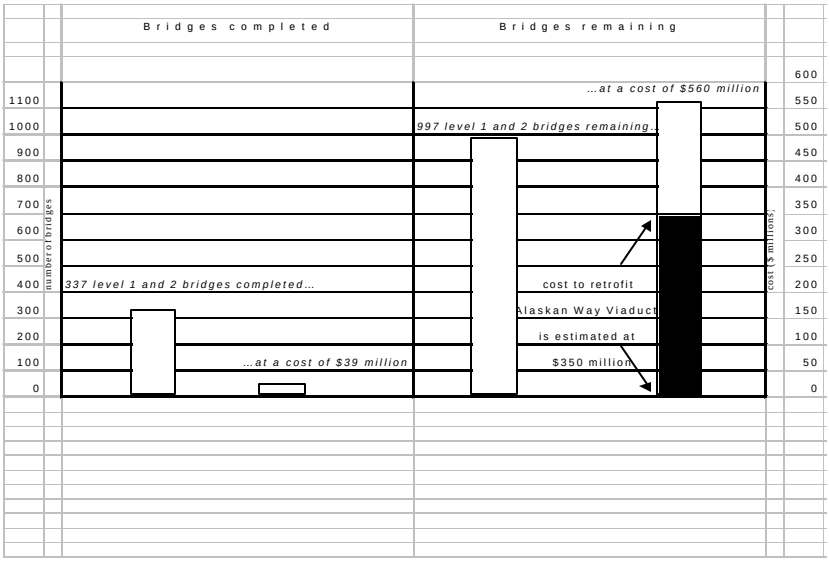


The committee wondered about injury rates, property damage caused by auto accidents, and pedestrian and bicycle accident rates which are often in the forefront of a community's consciousness. Upon consideration and further review, the committee felt that Washington's accident rates were already good and, because they were not directly influenced by investment choices, did not lend themselves well to benchmarking. Nevertheless, the statistics tell a story about the transportation system that should be communicated even if the data did not warrant setting a target for improved performance. The committee thus recommended the creation of an "indicator" for traffic safety, rather than a benchmark.

Roadway Safety. The committee further considered the issue of roadway safety related to structural or other design characteristics. If an intersection or stretch of roadway is a high-accident location, traffic engineers will examine it for safety improvements such as road width, incline, striping, guardrails or other features that could make it safer. The committee wondered whether data were available on high accident locations and how they could be reduced. The committee learned that WSDOT and most larger jurisdictions do indeed have programs to track high accident locations and to regularly invest in improvements. WSDOT's data are stored in a data base and investments are based on a comprehensive analysis of property damage, injuries and fatalities at a given location which lead to a calculation of the societal cost of the accidents compared to the benefits to be gained from improving the location. Many cities and counties conduct similar analyses. The data are highly detailed because, by their nature, the analyses must be conducted location by location and tend to be very specific in each instance. The voluminous technical information did not lend itself readily to benchmarking and the committee decided not to pursue development of a benchmark based on accident locations.

Seismic Safety. Another area of safety the committee considered was the seismic retrofit of bridges and other elevated structures in the state's earthquake-prone regions (primarily western Washington). The state has been actively pursuing a program to retrofit bridges and structures identified by risk level. Over 300 bridges have been retrofitted at a cost of about $40 million. However, almost 1,000 bridges remain to be repaired in just the two highest risk levels (1 and 2). The cost of the remaining retrofits is $560 million, of which the largest share is a single structure, the Alaskan Way Viaduct at some $350 million. The committee agreed to **Benchmark 5** with a target that said these risk level 1 and 2 bridges should be repaired by 2020.

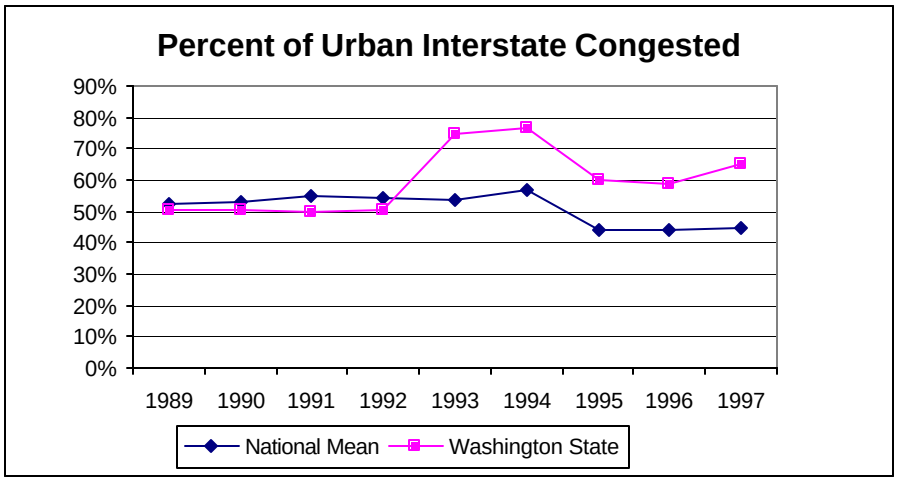
Benchmark 5: Safety
Target: Complete seismic safety retrofits of all level 1 and 2 bridges by 2020



Mobility -- Congestion Relief

Highway Congestion. In 1999, about 11% (794 miles) of the state highway system was congested. By 2020, it was projected that 37% (2,600 miles) would be congested. Again using Professor David Hartgen's comparison of Washington to the national mean, the committee learned that between 60% and 80% of the state's urban interstate system is congested, considerably higher than the national average. Committee members felt that the national comparison was especially useful for the benchmark on congestion, because it shows the severity of Washington's problem and serves as a call to action. They agreed to recommend **Benchmark 6** and set a target that proposed that Washington's congestion be no worse than the national average by 2020.

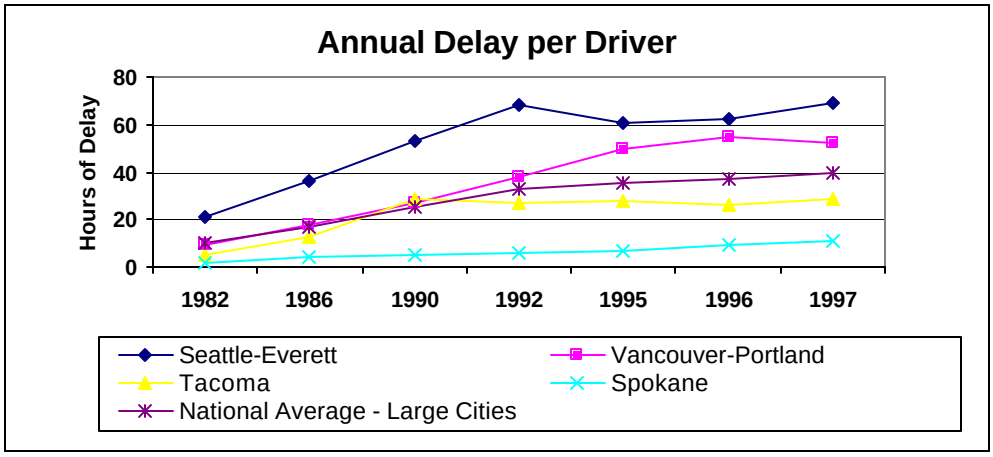
Benchmark 6: Traffic Congestion
Target: Congestion no worse than national mean by 2020



Members knew that this was an aggressive target but felt that in order to communicate a real vision of a first-class transportation system, a target would have to stretch the limits of what might be achievable. Members discussed the concern that the benchmark not be used to convey the impression that congestion could be "fixed" with investments in capacity. They agreed that achieving the target would require a mix of various strategies and that aspiring to the goal was nevertheless the right message to communicate.

Driver Delay. Another source of data the committee considered and chose to benchmark was the Texas Transportation Institute's calculation of driver delay by metropolitan area. Whereas the previous benchmark looked at the state as a whole, there were clearly large differences between urban regions and this data source would allow that point to be illustrated. Delay per driver is a calculated average based on the number of licensed drivers in a region. It does not attempt to distinguish between individuals actually experiencing delay and those traveling on uncongested roads or not traveling at all.

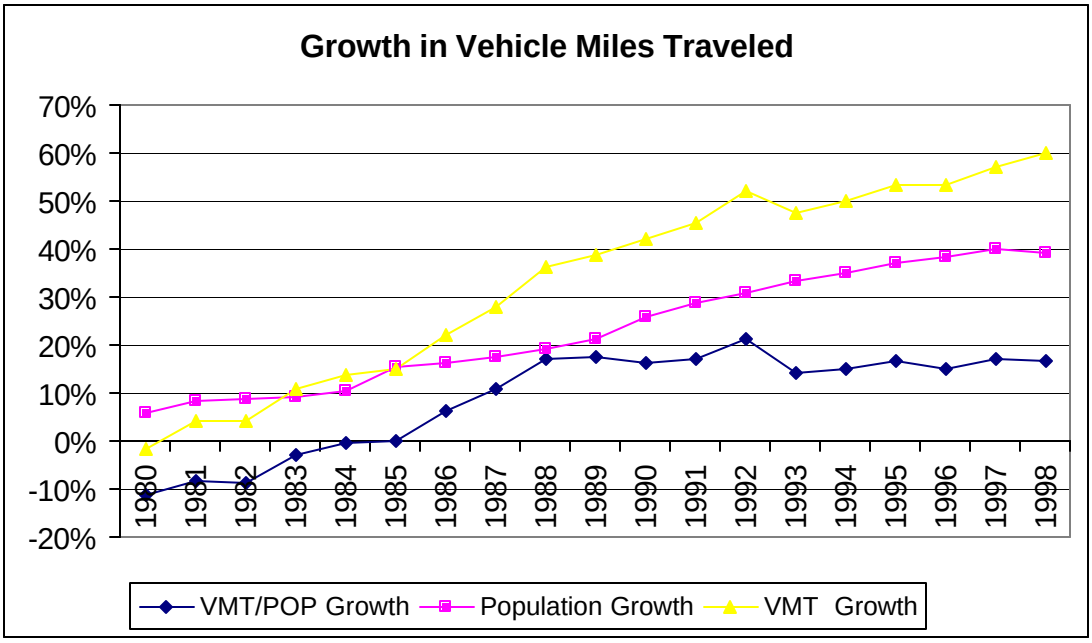
Benchmark 7: Traffic Congestion
Target: Delay no worse than national mean by 2020



The data show that the Seattle-Everett metropolitan area experienced 70 hours of average delay per driver annually, compared to the national average of about 40. The Vancouver-Portland region was also well above the national mean, while Tacoma and Spokane were still fortunate to be below the national average.

System Usage. In the last twenty years, Washington's population has grown about 40% while vehicle miles traveled, or VMT, has grown 60%, or half again as fast. VMT has been growing faster than population since the mid-1980s.

Benchmark 8: Traffic Congestion
Target: Maintain VMT per capita at 2000 levels



The committee was interested to note that vehicle miles per capita had not grown quite as rapidly over the 20-year period and had in fact leveled off in 1990 at about 9,000 miles per person per year. The committee adopted **Benchmark 8** that maintained the 2000 VMT level into the indefinite future.

The topic areas of physical condition and congestion were relatively well documented and had various data sources available for consideration. The next set of topics the committee considered, mobility options, freight movement and cost efficiency would turn out to be much more difficult.

Mobility -- Travel Options

The discussion of travel options began with a question about how to measure the availability of viable alternatives to single occupant driving. The committee learned that data gathering about mobility options was in the early stages and generally data had to be calculated based on computer models or determined through random sample surveys, neither of which is entirely reliable or consistent over time.

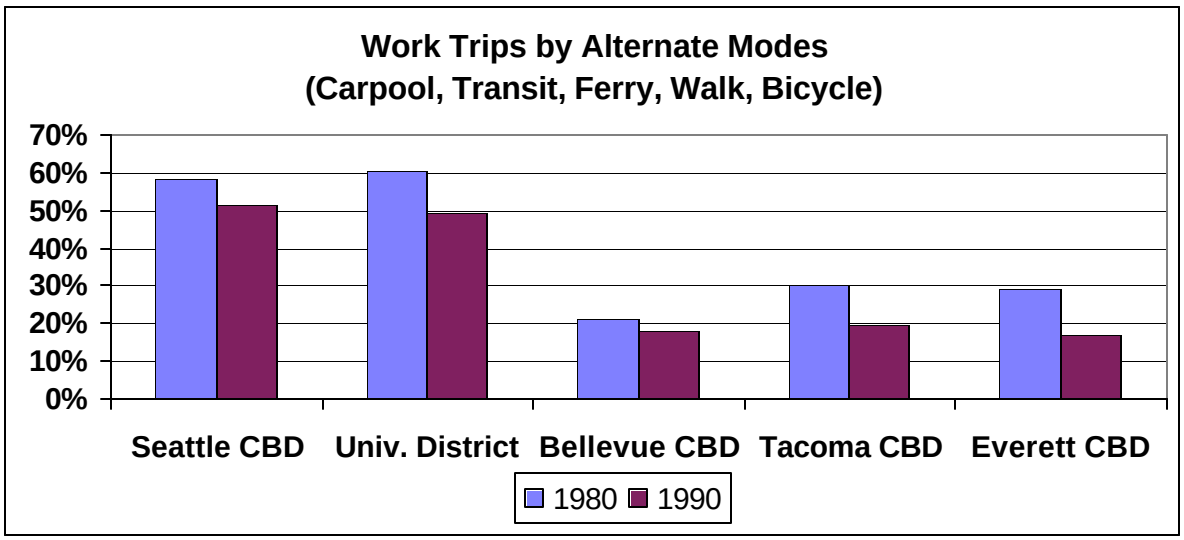
Mode Share. The committee was interested in benchmarking the availability of modal options to individuals using the transportation system in various parts of the state. One avenue pursued by the committee was to seek data on the share of trips being taken in high occupancy vehicles (HOV), transit, ferries, and by other modes such as walking and bicycling. The goal was to develop a target that would move toward increased use of modes other than the single occupant vehicle and reduce the reliance on roadway capacity as a solution to growing transportation demand.

A first attempt to compile mode shares was made by direct request to the metropolitan planning organizations in the Seattle, Spokane and Vancouver regions of the state. It quickly became apparent that how the question was asked had a significant role in determining what the answer was. A frequently cited statistic is that transit carries only 4% of the total trips in our transportation system. But during peak commute periods in central business districts, the non-auto share of traffic can be as high as 60% (University District and Downtown Seattle—see below). The Puget Sound Regional Council, the Spokane Regional Council and the Southwest Washington Regional Council each had methods of compiling SOV and HOV shares of traffic on a given corridor at a given time of day. But aggregating the data to metropolitan totals or averages did not yield figures that could be compared across regions.

The PSRC had the most detailed technical data in its Congestion Management System which contained actual traffic data at two points in time, 1995 and 1997, but did not have a sufficient number of comparable data points to allow aggregation. Peak hour vehicle volumes, lane occupancy in general purpose and HOV lanes, travel speed in the general purpose and HOV lanes, transit ridership and average car occupancy were available, but still in too early a stage of development to allow trends to be observed. It is to be hoped that in several years these data will become useful for benchmarking.

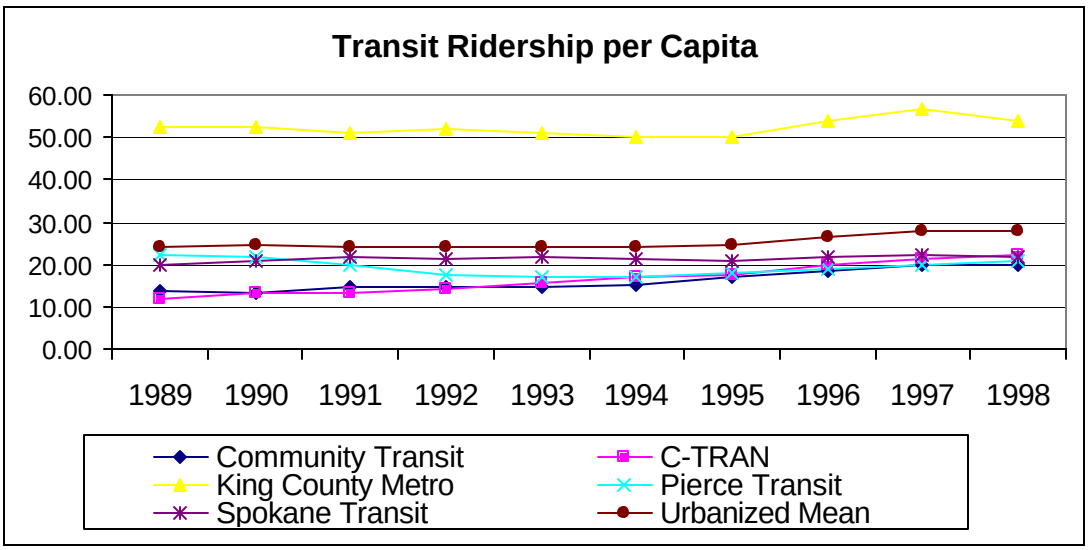
The data the committee found most useful for benchmarking purposes were the U.S. Census Bureau's Journey-to-Work surveys. Every ten years during the census, detailed surveys ask people where they work and how they travel to their jobs. These data are aggregated by business district.

Benchmark 9
Target: Increase non-auto share of work trips by x% or reverse downward trend by 2020



Within a year, the 2000 census will be complete and an additional Journey-to-Work data point will be added to this graph. Although the trend from 1980 to 1990 was a declining share of non-auto trips, that trend will need to be reversed if growth is to be accommodated in urban areas of the Puget Sound. The committee recommended adoption of **Benchmark 9** to increase the non-auto share of work trips by 2020 but felt it had insufficient information to develop a specific target. A placeholder was agreed to until additional data could help to set a realistic and achievable target.

Transit Ridership. Transit operating statistics are gathered and compiled by the Federal Transit Administration and reported annually. There is thus a highly consistent base of data that allows comparisons across agencies nationwide. A first set of data the committee reviewed looked at the share of a transit agency's population that was using the service.



King County had by far the densest population of the state and also the highest ridership per capita when compared to the smaller urban areas of the state as well as the average of the urbanized transit districts nationally. While the committee found the data interesting, it concluded that it provided little substantive information about how well the transportation system was providing real options to people for their travel. There was a slight upward trend in riders per capita over time for several of the agencies, notably Community Transit in Snohomish County and C-TRAN in Clark County. This was viewed as positive, but the committee chose not to use the data for benchmark purposes.

Data on ridership per mile and ridership per hour are available but are highly dependent on the density of development and the presence of employment centers and universities in a district. Younger populations of students, urban and lower income populations, high parking charges in central business districts are all factors that tend to increase the use of transit. While some transit districts are attempting to benchmark themselves against "peer" agencies with similar characteristics for management purposes, the committee did not feel statewide or national averages would be very useful in communicating to the public about the availability of travel options.

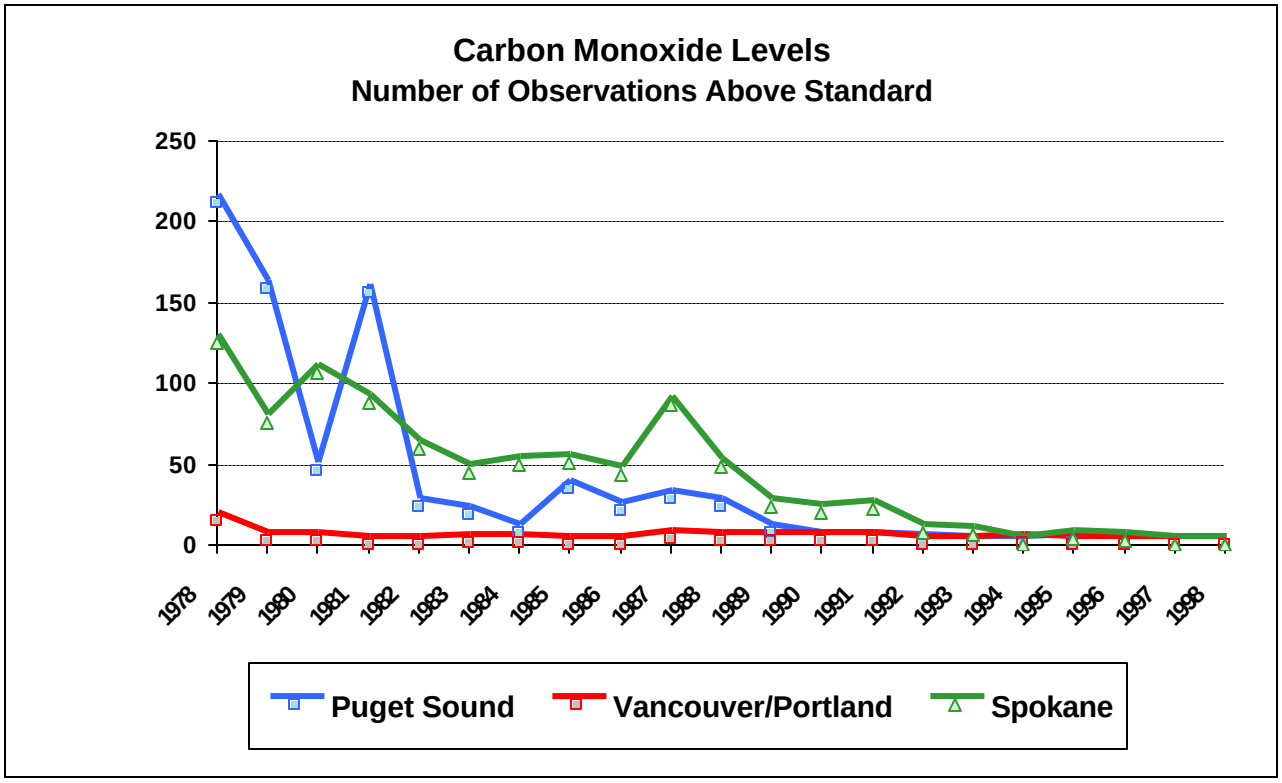
The committee asked for data on bus occupancy to determine how well utilized available transit capacity was, however, these data are not collected and even estimates were unavailable as transit districts reported that they do not track data on what size buses travel which routes.

Transit productivity data such as operating costs per vehicle hour and per passenger are discussed below in the section on cost efficiency.

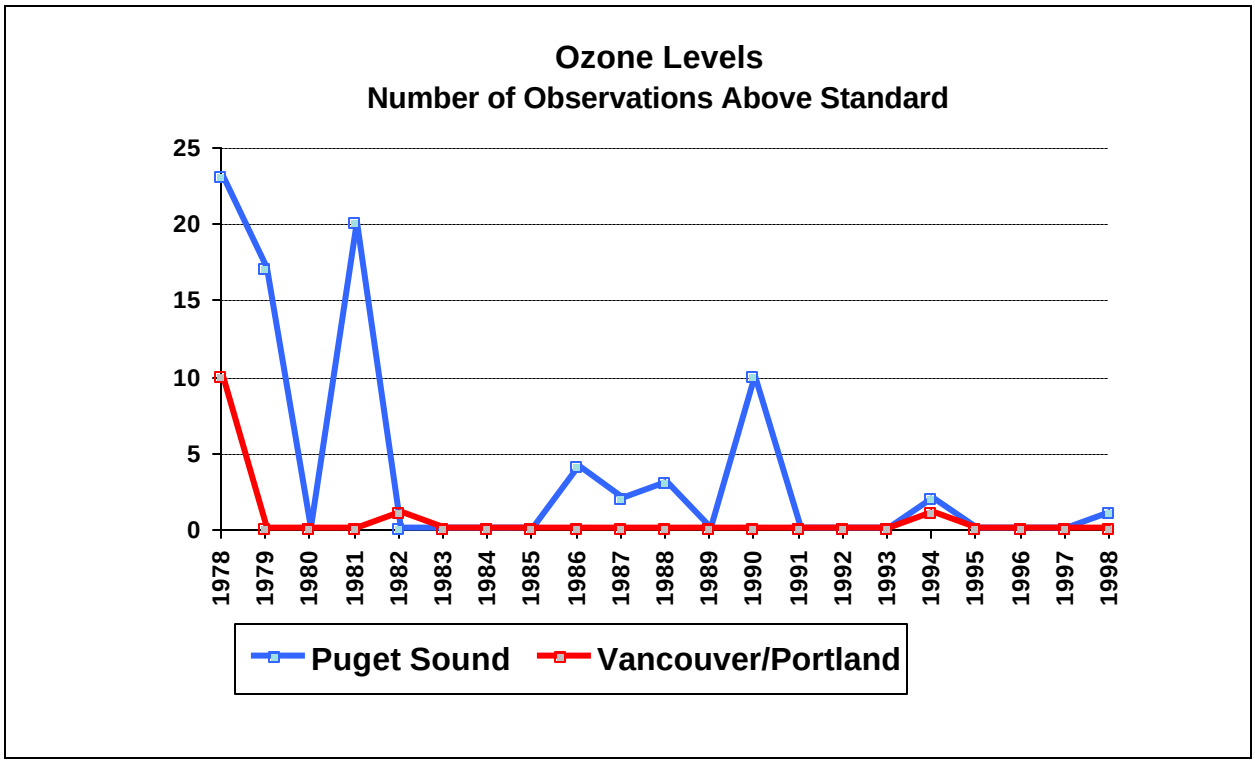
Environment – Air Quality

As with a number of other topics the committee wanted to benchmark, air quality data were not available in aggregated formats suitable for a high-level summary. Air quality is measured by pollutant at a given location and point in time. The committee chose to limit its measure to the two most common pollutants, carbon monoxide and ozone (the components of smog). Other pollutants considered but not used included nitrogen oxide, carbon dioxide and particulates. For ozone and carbon monoxide, the data showed a declining incidence of pollution since the 1970s and a steady state in maintaining federal standards in recent years. The committee chose not to suggest benchmark targets of continuing to maintain low levels of pollution since federal laws already require that and mechanisms are in place to monitor and sanction regions that do not comply. The committee chose to adopt air quality as an indicator rather than a benchmark.

Indicator 2: Air Quality



Indicator 3: Air Quality



Freight Movement / Global Trade Competitiveness

While they began as two separate topic areas, freight movement and trade competitiveness emerged as closely intertwined and the committee considered several data sources that dealt with both.

Freight Movement. Members of the Benchmark Committee and many other interested persons and groups have highlighted their concerns about the role of the freight and goods movement system in the state's economy and quality of life. A number of groups have grappled with measuring the performance of the freight transportation system in recent years. The Legislature appointed a high-level stakeholder group known as the Freight Mobility Advisory Committee (FMAC) which developed a set of proposed freight mobility investments and led to the formation of the Freight Mobility Strategic Investment Board. The Puget Sound ports together with WSDOT and the PSRC developed a program called Fast Corridor that studied traffic conflicts between surface traffic and the freight rail system between Tacoma and Everett. It too developed and proposed a list of investments.

A group convened by the Kent Chamber of Commerce, in the heart of the Puget Sound's warehouse and distribution district, known as the Freight Mobility System Improvement Team, also set out to make recommendations on improving the flow of freight and goods in and through Washington State. Each of these groups discovered the highly complex and fragmented nature of the freight movement system. The freight industry has a highly complex and diverse structure that includes international container cargo, agricultural bulk products, air cargo, domestic

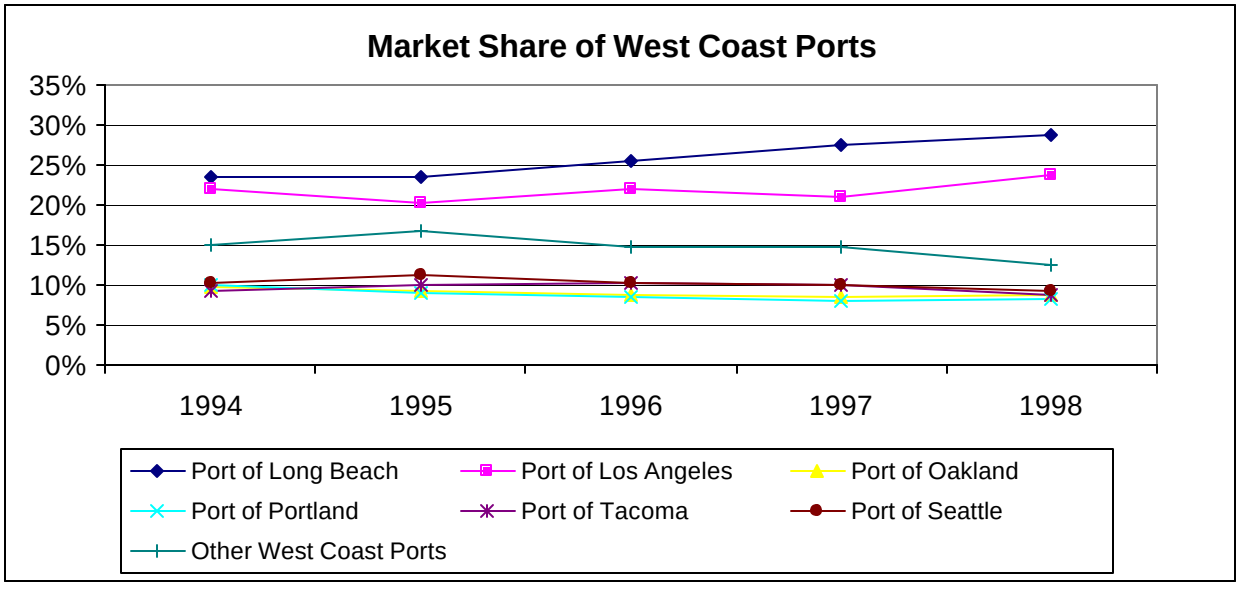
package delivery and shipments by ship, air, rail, barge, truck and small van. This industry has no single set of data or indicators to measure its performance and no single entity is responsible for coordinating its components. Each of the groups that studied the issue discovered this in turn, as did the Benchmark Committee.

Truck Traffic. Certain data exist on the number of trucks and freight tonnage travelling over the state's roadway network. Several years ago, WSDOT identified key strategic freight corridors on the state's highways by calculating tonnage on major routes and classifying them by amount of freight. But this designation occurred once and no data have been collected over time that could be used for benchmarking.

Additionally, the committee learned that the Washington State Patrol at its weigh stations has begun to gather electronically certain kinds of information about tonnage and truck size at major ports of entry into the state. However, this effort is very recent and, again, there are no data over time that would allow trends to be observed.

Both or either of these efforts might become useful sources of benchmarking data in the future, but at the current time no uniformly gathered, consistent data on truck volumes or tonnage were found.

Port Market Share. Some industry observers felt that the market share of Washington's major ports compared to other West Coast ports could serve as a proxy for the state of our freight movement system and our trade competitiveness. Data were readily available from each of the state's ports, from the Washington Public Ports Association and from the Pacific Maritime Association. They showed that the Ports of Tacoma and Seattle had been experiencing a declining market share for a number of years while southern California ports had been growing.

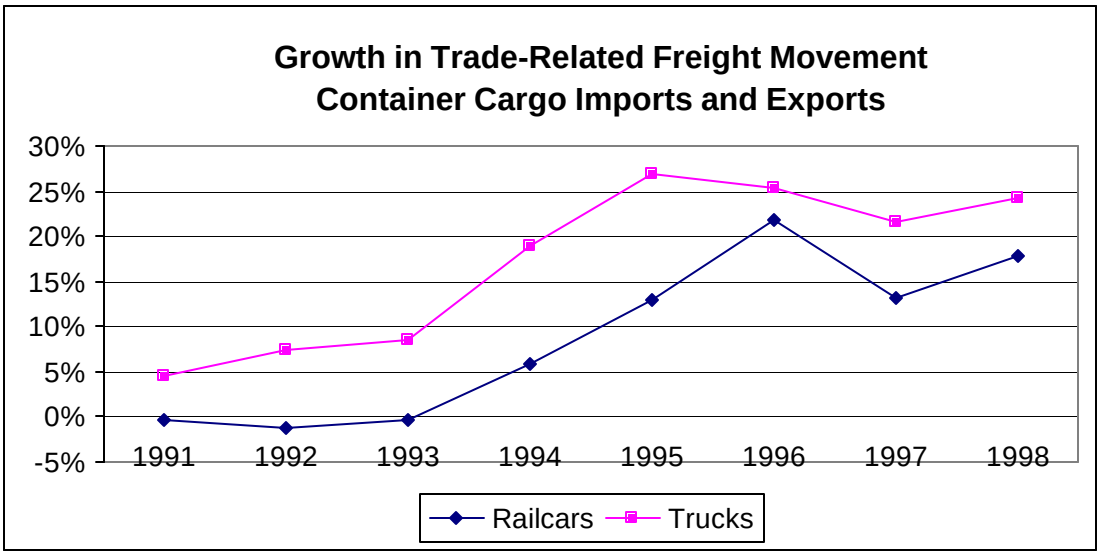


Other observers, however, noted that many variables affect market share, that have nothing at all to do with the state's transportation system. Examples cited included the state of the Asian economy, travel time from major Asian ports, competition among shipping lines and the rate of

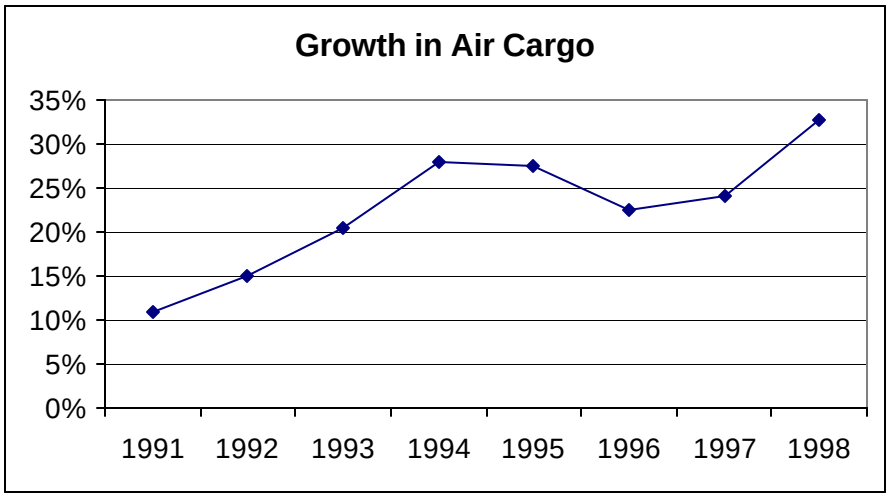
freight transfer from vessel to truck to rail car. Committee members concluded that market share data did not correlate directly with Washington transportation system and should not be used for benchmarking.

Trade-Related Freight Movement. The state's public ports track data on container and bulk cargo movements through Washington's ports. They also track whether the cargo arrives and departs on truck or rail car and are able to calculate the number of trucks and rails cars required to ship the cargo to and from the major ports. The following table shows the dramatic growth in container cargo movements in the 1990s.

Indicator 4: Freight Mobility



Air Cargo. After considering the container cargo-related truck and rail car growth, the committee asked to see additional freight data on other modes. Air cargo data were available from the Port of Seattle and showed an even stronger pace of growth for air cargo than for marine shipments.



The committee chose to use the data on truck and rail car numbers as an indicator to communicate to the public information about the growth of freight movement on the state's transportation system. Air cargo data were not included because it was assumed that all air shipments eventually travel to their final destination by either truck or rail and are thus already included in the previous numbers.

Cost Efficiency

Benchmark Committee members spent more time examining issues of cost efficiency than any other single topic area. There was a strong perception that this issue was highly important to the public, to elected officials and to the business community and therefore needed to be a focal point of the Blue Ribbon Commission's efforts. Yet the perceptions of what constitutes efficiency and how it should be measured varied considerably, depending on whose perspective was taken. Because every transportation agency and government entity has slightly different methods of categorizing, accounting for and tracking expenditures, finding common ground for comparisons was extraordinarily difficult. Cities, counties and the state varied among themselves. Washington varied from other states. National averages were available for some types of transportation expenditures but little was known about how agencies in other states categorized their costs and what elements might be included. Managers in every industry know that allocating overhead costs to capital programs involves gray areas that will differ among organizations.

WSDOT Administrative Costs. WSDOT tracks its expenditures by program category and designates certain categories of costs as "support" programs. Four specific programs are identified by WSDOT as true administrative costs:

- Program D (highway management and facilities)
- Program S (executive management, regional administration, finance and administration, management information systems)
- Program T (planning, data and research)
- Program U (charges from other state agencies, including attorney general, auditor, personnel services, revenue collection services)

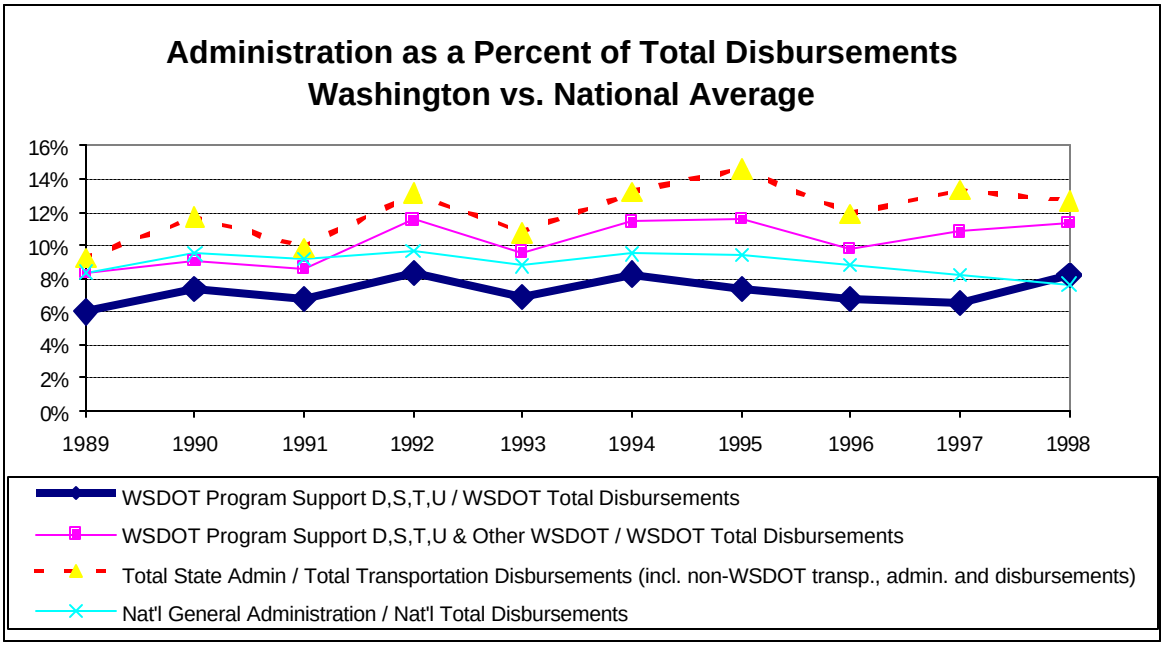
Other state expenditures for transportation are not direct WSDOT programs but are expenditures paid for out of transportation revenues and are included in many national comparisons. They include the costs of the Washington State Patrol, the Legislative Transportation Committee, the administration of other state transportation entities such as the Transportation Improvement Board, the Freight Mobility Strategic Investment Board, etc.

Administration as a percent of total spending. The most common method of measuring administrative cost efficiency is to calculate administrative costs as a percent share of total disbursements. Administrative costs for the state transportation system, measured this way, range from about 8% to about 15% of total, depending on which costs are included in the definition of administration and how large the total disbursements are in any given year. Thus in a year with a large new capital program the administrative percent of total might look small even

if the functions were exactly the same as the previous year in which there was a smaller total capital program.

The Benchmark Committee reviewed available data collected by the federal government in its Highway Statistics report and analyzed by Professor David Hartgen to compare the 50 states' spending patterns. These comparisons appeared to indicate that Washington was at the high end of administrative costs, near such high-cost states as New York, New Jersey and Massachusetts. However, the data reported to the federal government included total state overhead costs, including miscellaneous expenditures not reported in the basic categories of construction, operation or maintenance.

Washington's administrative totals appeared to fluctuate between 12% and 14% in recent years compared to a national average around 8%. However, WSDOT's direct "support" programs are at about 8% of total WSDOT disbursements and there is no information on what costs are included by other states in their reports.

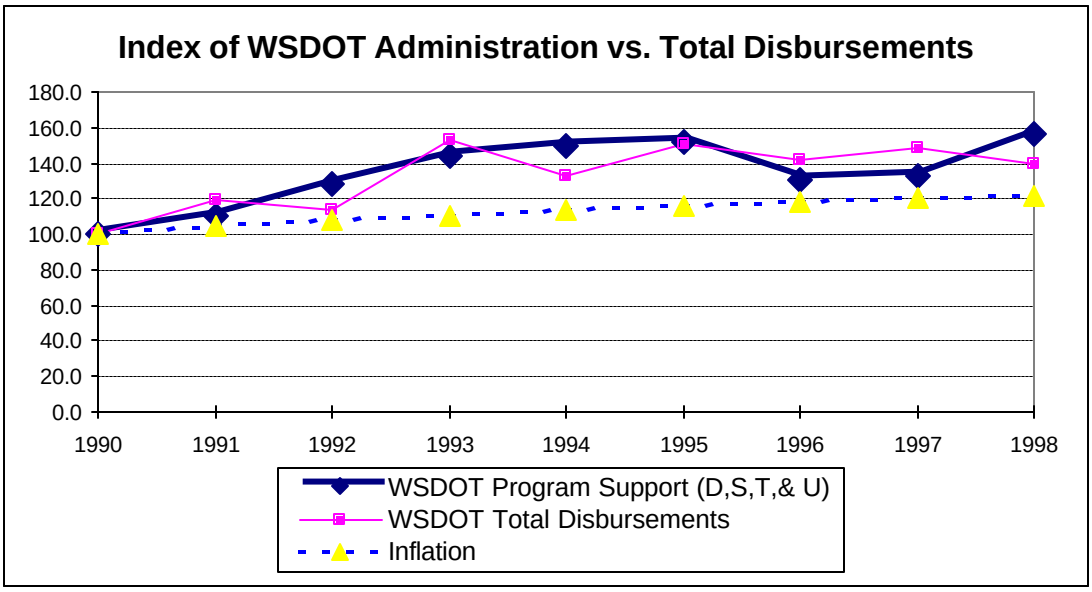


The Committee noted that the Washington Roundtable in its recent report had recommended that administrative costs in transportation agencies not exceed 10%. Depending on how that percentage was calculated, WSDOT might or might not already be below that threshold.

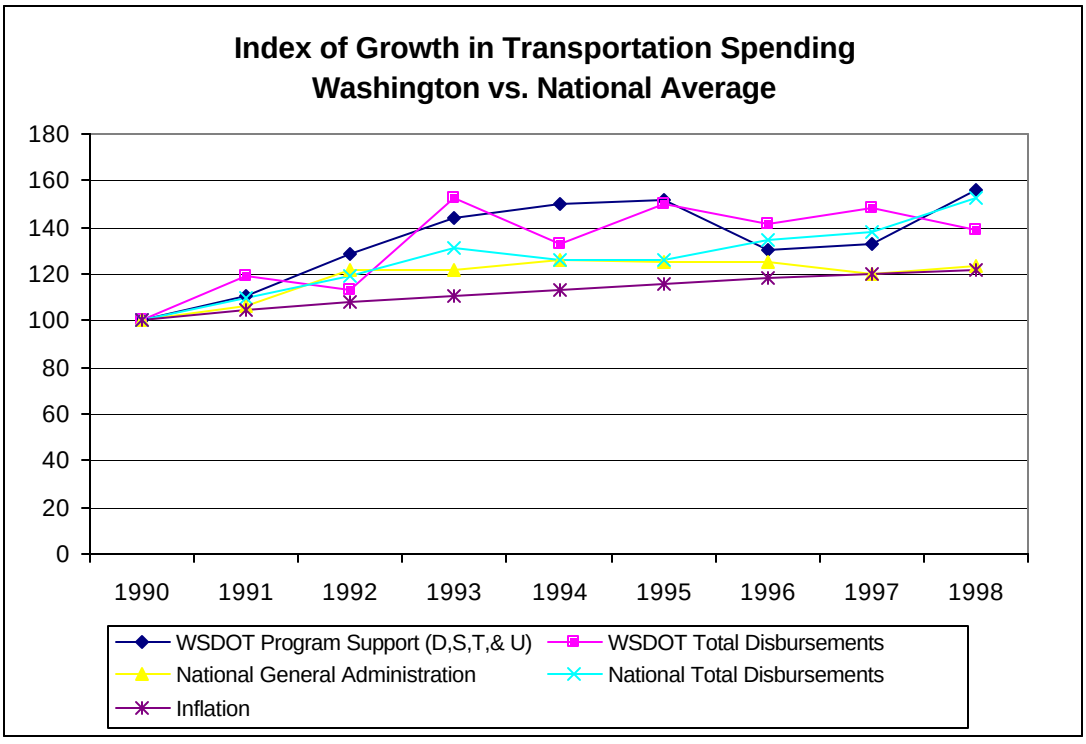
The committee chose to conduct additional research on the 50 states' administrative costs to determine which states are in the top, middle and bottom quartile of administrative spending as a percent of total. When those data are available, a graph will be prepared to accompany **Benchmark 10**, for which the committee recommended a target that Washington's administrative costs be in the top (most efficient) quartile nationally.

Growth in administration spending over time. Due to the difficulties in determining accurate and comparable administrative costs, the committee chose also to examine another approach.

This involved looking at the growth in administrative costs over time, compared to the growth in total transportation spending. While inflation grew a total of about 20% since 1990, total WSDOT expenditures grew 40% and administrative costs fluctuated between growth of 30% to a high of 56% in 1998.



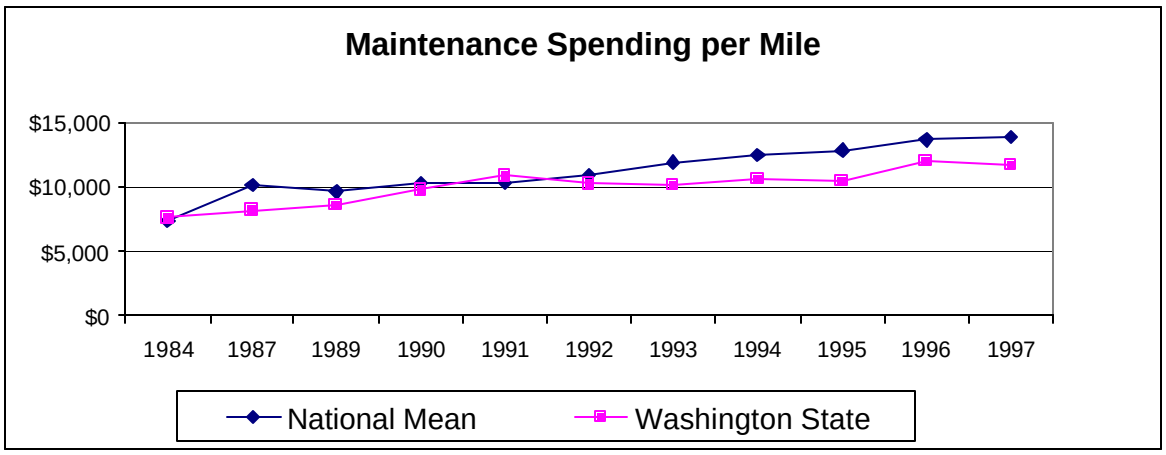
Since the administrative cost percentage varies with both the size of the administrative programs and the size of the total capital program, these figures can reflect wide variations.



When compared to the national average, Washington's administrative costs grew more rapidly than other states' costs which grew at about the rate of inflation.

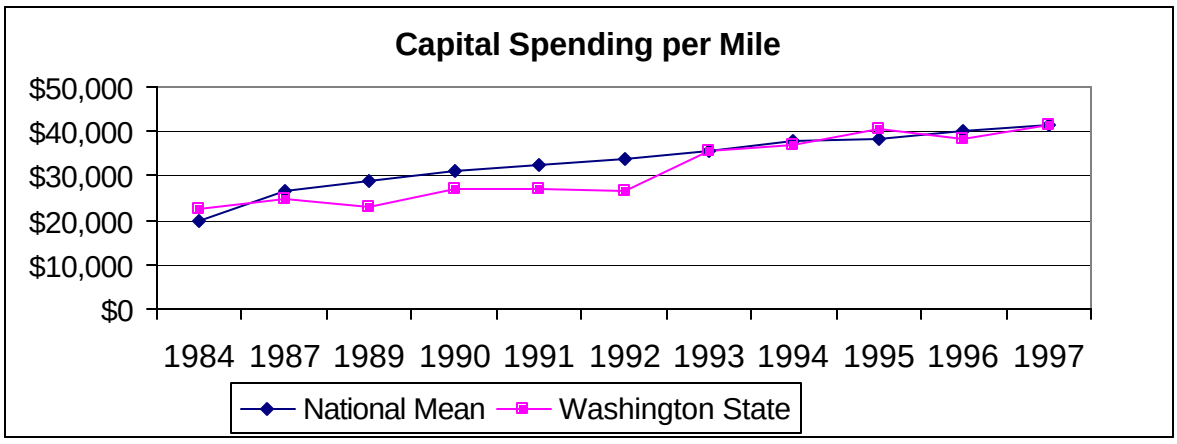
Examining in greater detail some of the components of Washington's administrative costs, it was learned that the most rapidly growing components were planning in the early years of the decade as new ISTEA and Growth Management Act requirements were mandated and management information systems (MIS) with significant Y2K costs in the latter half of the decade.

WSDOT Operation and Maintenance Costs. Again using the comparisons developed by Professor Hartgen, the committee reviewed O&M spending per mile for Washington and other states. While spending per mile was below the national mean, previously considered data on the condition of roads indicated that Washington's state highways were above average.



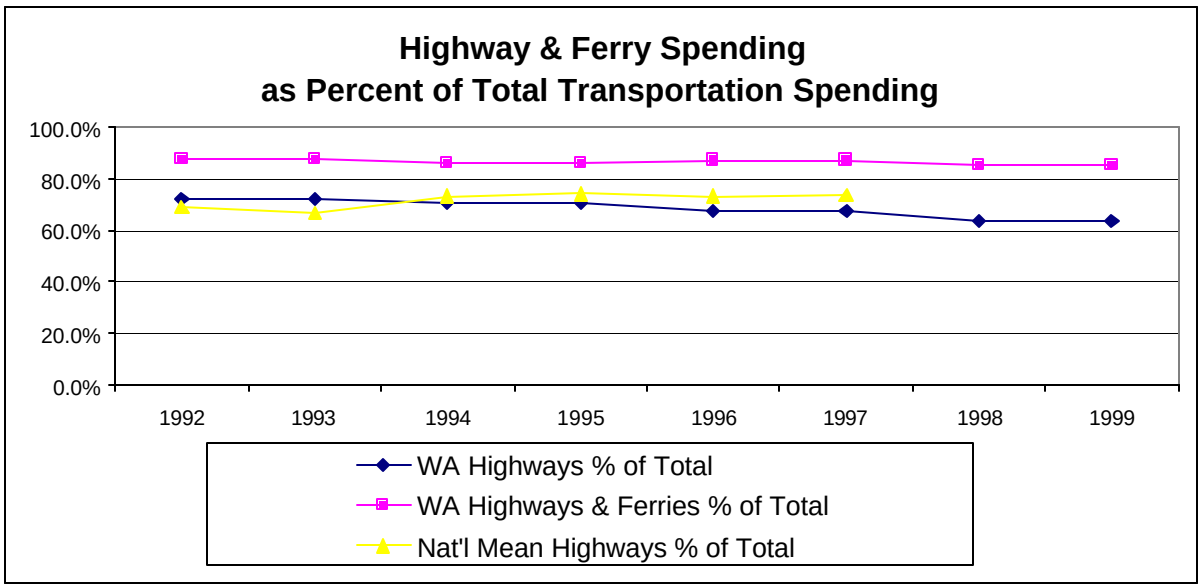
The committee chose not to use these data as it felt they were an indicator of a policy choice about spending levels and not a measure of efficiency.

WSDOT Construction Costs. Similar data from Professor Hartgen were reviewed for construction spending per mile.



The data showed that on this measure, Washington appeared to be right at the national average. However, again, the committee chose not to recommend using these data for benchmarking as they were not a measure of cost efficiency.

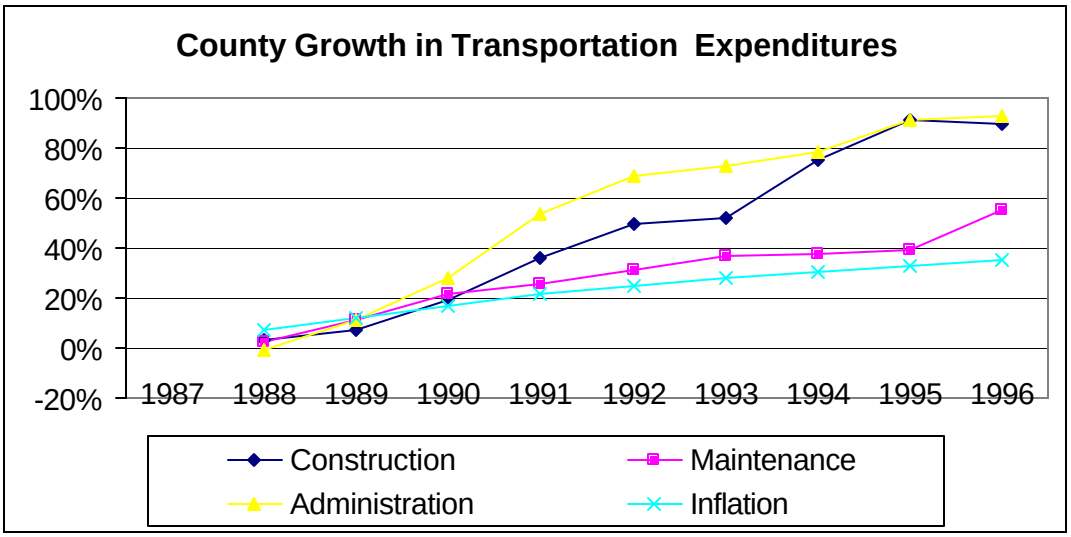
In light of the filing of an initiative that stipulated the percent of state transportation spending on highways, the committee expressed interest in understanding what proportion of the state's transportation investment was spent on roads, compared to the national average. It learned that, including ferries, which are considered part of the highway system under Washington's Constitution, the proportion was at 85% of total spending, compared to a national average of 75%. Excluding ferries, the Washington share of investment in roads was 67%.

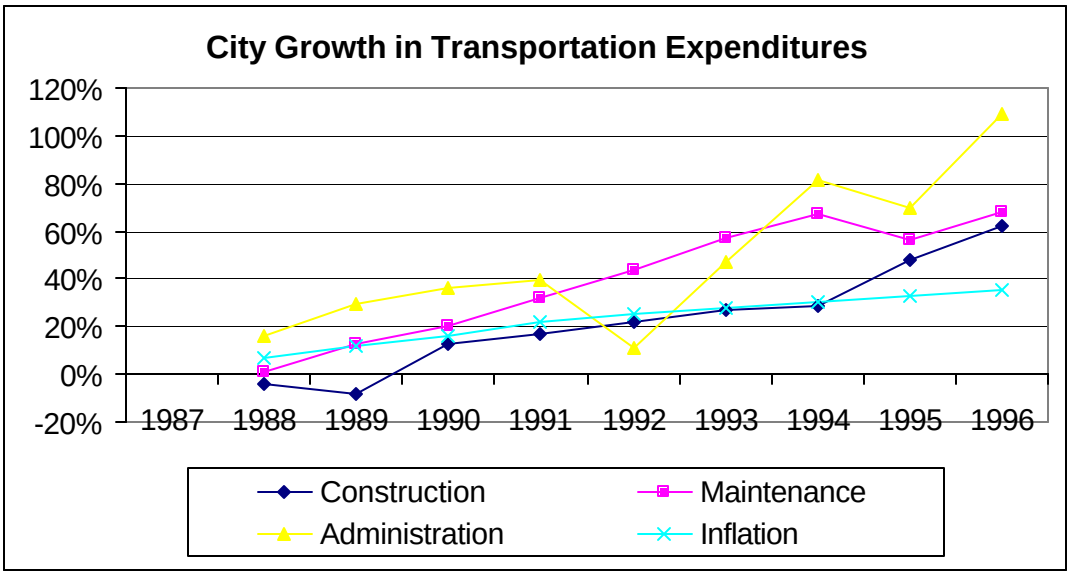


The committee chose not to use this information for benchmarking purposes as it did not wish to over-emphasize roads and felt a mix of multi-modal investments would need to be determined over time and in different parts of the state.

City and County Costs. As with the state, the committee began by reviewing available city and county data that indicated that administration costs as a percent of total transportation disbursements appear high, especially for urbanized and older jurisdictions. County and city staff advising the committee provided a number of briefings on the nature of cost accounting and classification in local government. While both cities and counties use BARS, the state's budgetary accounting and reporting system, there is little consistency across jurisdictions in how costs are classified. What appear to be wide differences in administrative costs are also attributable in large measure to whether a jurisdiction maintains its planning, engineering and construction management functions in-house or contracts them out, in which case the associated overhead is not carried on the jurisdiction's books.

Using data developed by Jensen Consulting for the Washington Roundtable, the committee learned that overall growth in spending for Washington's counties and cities followed similar patterns to the trend for the state. Administrative costs grew considerably faster than inflation and also grew faster than spending on maintenance or construction.

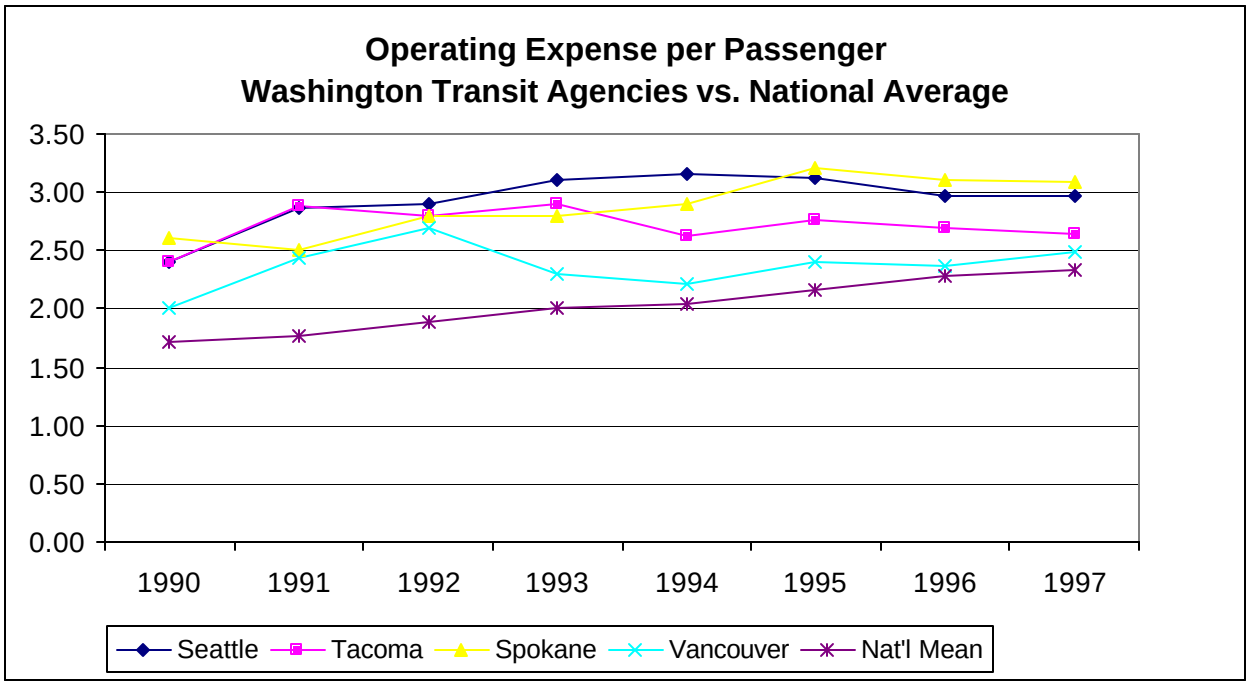


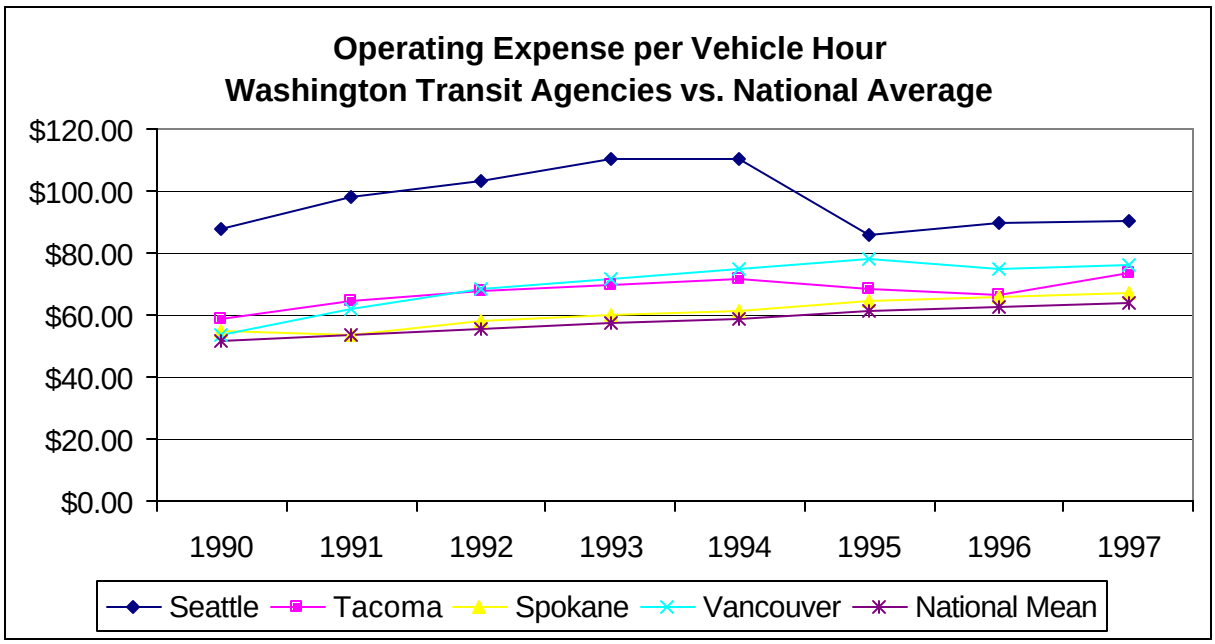


Expenditures in the categories of construction, maintenance and administration are not tracked on an individual jurisdiction basis at this time, however, a legislative pilot project is underway to create systemwide databases of transportation spending. Together with contextual indicators such as population, miles of roadways, vehicle miles traveled as well as outcome measures such as pavement condition, these data will eventually provide the ability to track and measure the performance of the transportation system at all levels. Not wanting to benchmark local governments' costs separately from state costs until then, the committee opted to set a single benchmark for administrative costs at the state level for now.

Transit Costs. Transit agencies report their revenues and expenditures, along with operating statistics, annually to the Federal Transit Administration. These data are entered into a national transit database that allows comparisons to agencies of similar size elsewhere in the country. Washington's transit agencies have consistently ranked high in costs per passenger and per

vehicle hour compared to their peers nationally. However, as the following graphs indicate, in recent years cost indicators have been flat or declining for Washington transit agencies.





In the wake of Initiative 695, transit revenues are down by as much as 40% which will bring operating costs down significantly. While it will likely also reduce ridership as service levels will suffer, it is probable that transit cost indicators will be coming down at Washington's transit agencies. For this reason, past trends may not be a useful guide to future performance. The

committee preferred cost per vehicle hour for benchmarking purposes, but asked that additional research be done to collect cost per passenger mile before making a final recommendation.

Summary of Recommended Indicators and Benchmarks

Indicator 1: System Safety, Fatal Accidents

Indicator 2: Environmental Impact, Air Quality (Carbon Monoxide)

Indicator 3: Environmental Impact, Air Quality (Ozone)

Indicator 4: Freight Mobility, Growth in Trade-Related Freight Movement

Benchmark 1: Physical Condition, Interstate Highways in Poor Condition
Target: Zero percent poor by 2020

Benchmark 2: Physical Condition, Major State Routes in Poor Condition
Target: Zero percent poor by 2020

Benchmark 3: Physical Condition, Local Arterials in Poor Condition
Target: Zero percent poor by 2020

Benchmark 4: Physical Condition, Percent of Bridges Deficient
Target: Zero percent structurally deficient by 2020

Benchmark 5: Safety, Seismic Safety of Bridges
Target: Complete seismic safety retrofits of all level 1 and 2 bridges by 2020

Benchmark 6: Traffic Congestion, Urban Interstate Highways Congested
Target: No worse than national mean by 2020

Benchmark 7: Traffic Congestion, Delay per Driver
Target: No worse than national mean by 2020

Benchmark 8: Traffic Congestion, Vehicle Miles Traveled
Target: Maintain VMT per capita at 2000 levels

Benchmark 9: Mobility, Travel Options
Target: Increase non-auto share of work trips in urban centers by X% or reverse the downward trend by 2020

Benchmark 10: Cost Efficiency, Administrative Costs at State, County and City Levels
Target: Administration as percent of transportation spending in most efficient quartile nationally

Benchmark 11: Cost Efficiency, Public Transit Costs
Target: Operating cost per passenger mile at national mean by 2020